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WILMON NEWELL, Director
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WITCHES BROOM OF OLEANDER

By ERDMAN WEST
Mycologist, Florida Experiment Station

The common oleander *(Nerium oleander)* is one of Florida's attractive ornamentals. Because of its vigorous growth, good range of colors and toleration of a variety of soil and moisture conditions, oleander is a cosmopolitan and much used shrub for private and civic plantings. Only one serious disease, called "witches broom", has been found affecting it in Florida.

SYMPTOMS OF WITCHES BROOM

A healthy oleander bush has long, straight, cane-like stems, sparingly branched below and bearing whorls of shorter branches at the flowering tips. Oleanders showing advanced stages of witches broom bear many clumps of small, slender branches at various points along the larger stems. The numerous twigs in these tufts curve upwards and form a dense bushy mass remotely resembling a broom and because of this the common name of "witches broom" has been applied. The broom may grow out of a bud on one side of a stem and produce a one-sided clump or it may extend all the way around the stem and produce a uniform growth. The brooms may occur anywhere on the bush from the ground up to the top. They are usually confined to ripened wood on which the bark has lost its green color and become brownish.

Individual twigs in the broom vary from 8 to 18 inches in length, are more slender than normal twigs and bear distinctly smaller leaves. They produce no flowers. The brooms soon die after active growth ceases and remain as unsightly clusters of dead twigs and leaves on the bush. Even the green brooms detract from the appearance of the oleander. The main stem above the broom usually dies with the broom. When several of the larger canes have been attacked, the oleander bush assumes a stunted appearance and ceases to produce flowers.

THE CAUSE

Growth of the brooms is caused by the presence of a fungus *(Sphaeropsis* sp.) in the tissues of the plant. The fungus is not

apparent as long as the brooms are green and active, but as soon as the broom dies it produces numerous small black pustules on the small twigs, especially near their bases. As these mature, they produce and exude great numbers of tiny oval black spores —individually indistinguishable without the aid of a compound microscope. These are spread to healthy bushes by wind, rain, birds and other agencies where they start new brooms.

Although there is no outward indication, the fungus is present in the green brooms and can be cultured from this part of the plant by the use of proper laboratory technique.

CONTROL

The eradication of the disease from a planting of oleanders is a community project and cannot be accomplished immediately. A property owner may clean up his own plants, but unless his neighbor and his neighbor's neighbor do likewise, the plants are likely to become reinfected.

The first step in the control of witches broom is the pruning out of all brooms, including 12 inches of the branches on which they are growing. These prunings should be collected carefully and destroyed by burning. The pruning should be followed by the application to the entire plant of some good copper fungicide equivalent to Flordo spray or 3-3-50 Bordeaux mixture. Most copper sprays will require the addition of a sticker for best results.

The oleanders should be watched carefully for new brooms which are likely to appear for some time (just how long is not definitely known), because at the time of pruning certain buds may be infected without having started the abnormal growth that can be recognized as diseased. These new and green brooms should be pruned out carefully before they turn brown and spread a new crop of spores. All such brooms should be burned promptly after removal, as the fungus can grow and produce spores on them even after they have been cut from the plant. Should any of the brooms reach the brown stage before they are noticed, another application of the fungicide should be made.

Where infection is of long standing and there are many brooms in the center of the bushes, especially near the ground, it is not practical to cure the trouble by ordinary treatment. Such specimens should be cut off close to the ground and the crown should be sprayed thoroughly. Even such drastic treatment may not give satisfactory results and it is frequently safer and more practical to dig the affected bush and plant a new one.